

Amendments to the Claims

This listing will replace all prior versions and listings of claims in the application:

Listing of Claims

1. (Currently amended) A process for the preparation of an olefin homopolymer or copolymer comprising polymerising at least one C₂₋₂₀- α -olefin in slurry phase in the presence of:

(a) a metallocene compound of formula I:



wherein:

Cp is an optionally substituted and/or optionally fused ~~homo- or heterocyclopentadienyl~~ homocyclopentadienyl ligand;

Cp'' is a cyclopentadienyl substituted by at least one C₁₋₂₀-alkyl group;

~~R is a bridge of 1-7 bridging atoms;~~

~~M is a group 4 to 6 transition metal~~ Hf;

~~each X is -CH₂-Y, wherein Y is at least one selected from the group consisting of: C₆₋₂₀-aryl, C₆₋₂₀-heteroaryl, C₁₋₂₀-alkoxy, C₆₋₂₀-aryloxy, -NR'₂, -SR', -PR'₃, -SiR'₃, -OSiR'₃ and halogen;~~

~~R' is C₁₋₂₀-hydrocarbyl or in case of -NR'₂, the two substituents R' can form a ring together with the nitrogen atom wherein they are attached to;~~

~~and each non-cyclopentadienyl ring moiety can further be substituted; and~~

~~n is 0 or 1; and~~

(b) an aluminoxane.

2. (Canceled)

3. (Currently amended) A process as claimed in claim 1, wherein Cp is optionally substituted ~~by at least one substituent selected from the group consisting of:~~ halogen, C₁₋₂₀-alkyl, C₂₋₂₀-alkenyl, C₂₋₂₀-alkynyl, C₃₋₁₂-cycloalkyl, C₆₋₂₀-aryl or C₇₋₂₀-arylalkyl, C₃₋₁₂-heterocycloalkyl which contains 1, 2, 3 or 4 heteroatom(s) in the ring moiety, C₅₋₂₀-heteroaryl, C₁₋₂₀-haloalkyl, -SiR"₃, -OSiR"₃, -SR", -PR"₂ and or -NR"₂.

4. (Currently amended) A process as claimed in claim 1, wherein Cp denotes optionally substituted ~~by at least one substituent selected from the group consisting of:~~ cyclopentadienyl, indenyl, tetrahydroindenyl, benzindenyl or and fluorenyl.

5. (Original) A process as claimed in claim 4 wherein Cp denotes optionally substituted cyclopentadienyl.

6. (Previously presented) A process as claimed in claim 1 wherein the Cp and Cp" groups are identical.

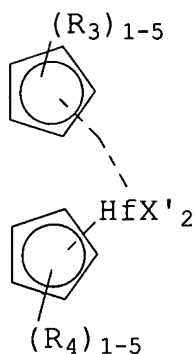
7. (Previously presented) A process as claimed in claim 2, wherein the Cp and Cp" groups carry 1 to 5 C₁₋₆-alkyl substituents.

8. (Canceled)

9. (Previously presented) A process as claimed in claim 1 wherein -CH₂-Y is benzyl or -CH₂-SiR'₃.

10. (Currently amended) A process as claimed in ~~claims~~ claim 1 wherein said metallocene is of formula (II)

(II)



wherein R_3 is a C_{1-6} -alkyl or siloxy substituent, R_4 is a C_{1-6} -alkyl, and both X' groups are either benzyl (Bz) or $CH_2SiR'_3$ wherein R' is C_{1-20} -hydrocarbyl.

11. (Currently amended) A process as claimed in claim 1 wherein said ~~slurry phase~~ process is carried out in a loop reactor.

12. (Currently amended) A process as claimed in claim 1 wherein said ~~slurry phase~~ polymerisation is one stage of a multistage polymerisation.

13. (Currently amended) A process as claimed in claim 12 wherein subsequent to said ~~slurry phase~~ polymerisation there is a gas phase polymerisation.

14. (Original) A process as claimed in claim 13 wherein the weight ratio of produced polymer in the slurry phase: gas phase is 60:40 to 40:60.

15. (Canceled)

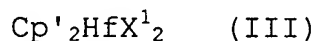
16. (Original) A process as claimed in claim 13 wherein said gas phase polymerization is itself followed by a further gas phase polymerisation stage.

17. (Previously presented) A process as claimed in claim 1 wherein the metallocene is prepolymerised.

18. (Previously presented) A process as claimed in claim 1, wherein said olefin homopolymer or copolymer is an ethylene homopolymer or ethylene copolymer with a C₃₋₆-comonomer.

19. (Previously presented) A process as claimed in claim 1, wherein said metallocene is supported on a carrier.

20. (Currently amended) ~~A metallocene compound~~ Metallocene compounds of formula (III)



wherein each Cp' denotes a mono or di C₁₋₆-alkyl-substituted cyclopentadienyl, X¹ is benzyl or CH₂SiR'₃ in which R' is C₁₋₂₀-hydrocarbyl.

21. (Currently amended) ~~The~~ A metallocene compound as claimed in claim 20 wherein R' is methyl.

22. (Currently amended) A metallocene compound selected from the group consisting of:

bis(n-butylcyclopentadienyl)Hf dibenzyl,
bis(methylcyclopentadienyl)Hf dibenzyl,
bis(1,2-dimethylcyclopentadienyl)Hf dibenzyl,
bis(n-butylindenyl) Hf dibenzyl,
bis(methylindenyl) Hf dibenzyl,

bis(dimethylindenyl) Hf dibenzyl,
bis(n-propylcyclopentadienyl)Hf dibenzyl,
bis(i-propylcyclopentadienyl)Hf dibenzyl,
bis(n-butylcyclopentadienyl) Hf (CH₂SiMe₃)₂,
bis(n-propylcyclopentadienyl) Hf (CH₂SiMe₃)₂, and
bis(i-propylcyclopentadienyl) Hf (CH₂SiMe₃)₂ ~~and mixtures~~
~~thereof.~~

23. (Canceled)

24. (New) A metallocene compound as claimed in claim 5 wherein
Cp is indenyl.